

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS

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UNITED STATES OF AMERICA,

Plaintiff,

CIV. NO. 93-482-WDS

v.

Judge Stiehl

CHEMETCO, INC.,

Defendant.

CONSENT DECREE

A. Plaintiff, United States of America, on behalf of the Administrator of the United States Environmental Protection Agency ("U.S. EPA"), filed a Complaint in this action against Defendant, Chemetco, Inc. ("Chemetco" or "Defendant"), alleging civil violations of the Clean Air Act, 42 U.S.C. §§ 7401 et seq. ("CAA" or "Act"), and the Federally approved and enforceable regulations comprising the State of Illinois Air Pollution Implementation Plan ("Illinois SIP"), codified at 40 C.F.R. § 52.720-52.742.

B. Pursuant to the authority of CAA Section 113(b), 42 U.S.C. § 7413(b), the Complaint seeks injunctive relief and the imposition of civil penalties for violations of the Act;

C. At all times relevant to the Complaint, Chemetco has been the "operator," within the meaning of CAA Section 113, 42 U.S.C. § 7413, of a secondary copper smelter at a Facility located on Illinois Route 3 at Oldenburg Road, City of Hartford, Madison County, Illinois;

D. The Facility is a "stationary source" within the meaning of CAA Section 302(z), 42 U.S.C. § 7602(z), because it emits lead and particulate matter into the environment;

E. Illinois Pollution Control Board ("IPCB") Rule 101 defines "existing emission source" as any emission source, the construction or modification of which commenced prior to May 31, 1972, the effective date of IPCB Rule 101. See 35 Ill. Adm. Code § 212.322;

F. The Facility has been a "major stationary source" as defined in CAA Section 302(j), 42 U.S.C. § 7602(j), because it has emitted more than one hundred tons per year of an air pollutant;

G. Defendant's secondary copper smelter at the Facility is comprised, in part, of four furnaces ("Furnace Nos. 1, 2, 3, and 4") (also known as "converters"), which process scrap materials (including brasses and bronzes that contain lead) and which generate particulate matter emissions in varying amounts.

H. Furnace Nos. 1, 2, and 3 at the Facility were operated prior to May 31, 1972, and are "existing emission sources" within the meaning of the IPCB Rule 101, 35 Ill. Adm. Code § 212.322.

I. IPCB Rule 101 defines "new emission source" as any emission source the construction or modification of which commenced after May 31, 1972, the effective date of IPCB Rule 101. See 35 Ill. Adm. Code § 212.321.

J. Furnace No. 4 at the Facility was constructed after May 31, 1972, and is a "new emission source" within the meaning of the IPCB Rule 101, 35 Ill. Adm. Code § 212.321.

K. IPCB Rule 103 prohibits any person from causing or allowing the operation of any new emission source or new air pollution control equipment, for which a construction permit is required by IPCB Rule 103, without first obtaining an operating permit from IEPA. See 35 Ill. Adm. Code § 201.143.

L. As discussed in detail herein, as part of this settlement, Chemetco has agreed to install and operate a continuous particulate mass monitoring system ("CPMMS") at its Facility. The parties agree that the purposes of such system include, but are not limited to:

Providing Chemetco with near real time emissions data for improving operation and maintenance of the Furnaces and the associated air pollution control devices at the Facility;

Minimizing the number of required stack tests that would otherwise be necessary for determining "continuous compliance;"

Providing Chemetco and U.S. EPA with continuous particulate mass emissions information in standard units of measurement, thereby minimizing reliance on surrogate measurements of emissions from the Facility's emission points (stacks), such as opacity and pressure drop across control devices, that have been contested in other cases as not accurately reflecting the existence of particulate limit excursions; and

Providing an agreed source of credible evidence for demonstrating continuous compliance with particulate emission limits.

M. Chemetco previously paid the State of Illinois a total of \$305,000 in settlement of some of the violations set forth in the United States' Complaint.

N. The parties recognize and the Court, by approving and entering this Consent Decree, finds that this Consent Decree has been negotiated by the Parties in good faith, and implementation of this Consent Decree will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, IT IS ADJUDGED, ORDERED, AND DECREED THAT:

#### **I. JURISDICTION AND VENUE**

1. The Complaint in this action states a claim upon which relief can be granted under the Act.

2. This Court has jurisdiction over the subject matter and parties to this action pursuant to CAA Section 113(b), 42 U.S.C. § 7413(b).

3. Venue properly lies in this Judicial District under 28 U.S.C. §§ 1391(b) and 1395(a).

## **II. DEFINITIONS**

4. The terms used in this Consent Decree that are defined in the Clean Air Act, 42 U.S.C. §§ 7401 et seq., and the Federally approved and enforceable regulations comprising the Illinois SIP, 40 C.F.R. §§ 52.720-52.742, have the meanings contained therein.

5. Whenever the terms listed below are used in this Consent Decree or in any of the Appendices hereto the following definitions shall apply:

- a. "Defendant" shall mean "Chemetco, Inc." or "Chemetco;"
- b. "BACT" shall mean "Best Available Control Technology," as defined in Clean Air Act Section 169(3), 42 U.S.C. § 7479(3);
- c. "Clean Air Act," "Act" and "CAA" shall mean the Clean Air Act, 42 U.S.C. § 7401, et seq.;
- d. "Consent Decree" shall mean this Consent Decree and all appendices hereto, including all modifications to the Consent Decree that are made pursuant to Paragraph 55 hereof;
- e. "Continuous Particulate Mass Monitoring System" or "CPMMS" shall mean the system that measures the particulate matter that is released from the emission points (stacks) at the Hartford Facility into the ambient air: the system includes, but is not limited to, a continuous

particulate mass monitor (Mass Monitor), and a monitoring device or system for measuring or computing the exhaust gas flow on an hourly basis (Flow Monitor);

f. "Daily Weighted Average" shall mean the average of the zinc and/or lead percentages of all the Furnace Charges in one day, taking into account the weight of the material comprising each Furnace Charge;

g. "Direct Injection System" or "DI System" shall mean the system by which copper bearing fines are injected directly into a Furnace: the system includes the conveyor system, sizing machine, kiln dryer, pneumatic transporters, storage silo, and a large injector;

h. "Facility" or "Plant" shall mean Defendant's secondary copper smelter, and all associated processing, transfer, storage operations and equipment located on Illinois Route 3 at Oldenburg Road, City of Hartford, County of Madison, State of Illinois;

i. "Fines" shall mean all scrap materials acquired at the Facility that are stored, dried, screened or processed in any way for direct injection through the DI System into any of the Furnaces;

j. "Foundry" shall mean the building in which the Hartford Facility's Furnaces are located;

k. "Furnace" shall mean any rotary copper smelting device at the Facility;

l. "Furnace Charge" or "Charge" shall mean any material placed into a Furnace for processing;

m. "Furnace Mode" or "Mode" shall mean any of the four phases of processing in any Furnace, which include Slag Treatment (Mode 1); Refining (Cold Charge) (Mode 2); Smelting

(Smelt) (Mode 3); and Injection (Mode 4);

n. "IEPA" shall mean the State of Illinois Environmental Protection Agency and any successor departments or agencies of the State of Illinois;

o. "Illinois SIP" shall mean the State of Illinois Air Pollution Implementation Plan, codified at 40 C.F.R. §§ 52.720-52.742;

p. "IPCB" shall mean the State of Illinois Pollution Control Board;

q. "Malfunction" shall mean any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions (See 40 C.F.R. § 60.2);

r. "National Ambient Air Quality Standards" or "NAAQS" shall mean the standards set forth at 40 C.F.R. §§ 50.1-50.12;

s. "Paragraph" shall mean a portion of this Consent Decree designated by an Arabic numeral outside of a parentheses, e.g., "19";

t. "Pressure Drop" shall mean the decrease in pressure between two monitoring points;

u. "Pressure Drop Monitor" shall mean any device(s) installed and operated to determine the Pressure Drop that occurs between any two points;

v. "Process Weight" shall mean the total weight in pounds, of all material charged to a Furnace during a Furnace Mode;

w. "Process Weight Rate" shall have the same meaning as set forth in 35 Ill. Adm.

Code § 211.122. See also 35 Ill. Adm. Code Part 266;

x. "Raw Material Data Base" shall mean the record keeping system whereby the pertinent information concerning all raw material received at the Facility for processing in the refining and/or smelt/slag treatment modes is logged and maintained;

y. "Recipe" shall mean the chemical composition of a Furnace Charge or Smelting Heat;

z. "Residue" shall mean any material remaining in a Furnace after completion of a Furnace Mode;

aa. "Secondary Capture System and Control Device" shall mean the hood, duct work, fans, and baghouse that control all fugitive emissions that escape from the Furnaces or are otherwise produced by activities in the Facility;

bb. "Smelting Heat" shall mean one or more Furnace Charges excluding any Residue in that Furnace from any previous smelting mode processed in that furnace;

cc. (1) "Stack Test" shall mean a measurement of the amount of any pollutant including, but not limited to, particulate matter and lead, emitted by a source of air emissions, that is conducted in accordance with U.S. EPA-approved test methods found at 40 C.F.R. Part 60, Appendix A;

(2) "Baseline Stack Test" shall mean the initial testing of combined Furnace Nos. 1 and 3, and combined Furnace Nos. 2 and 4, and/or combined Furnace Modes for those units, following any modification to the process and/or air pollution control equipment;

dd. "State" shall mean the State of Illinois and all its departments, agencies and

instrumentalities;

ee. "United States" shall mean the United States of America and all its departments, agencies and instrumentalities;

ff. "U.S. EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

### **III. APPLICABILITY**

6. The provisions of this Consent Decree shall apply to and be binding upon Defendant and Defendant's agents, officers, directors, employees, successors, assigns, contractors, and consultants solely in their capacities as such. Defendant shall be responsible for the acts of its agents, officers, directors, employees, successors, assigns, contractors, and consultants, who violate, cause or permit Defendant to violate the terms of this Consent Decree.

7. No change in ownership or corporate status shall in any way alter the responsibilities of Defendant under this Consent Decree. In the event of any conveyance of title, easement, or other interest in the Facility, Defendant shall continue to meet all obligations under this Consent Decree.

8. In the event that Defendant proposes to sell or transfer any real property or operations subject to this Consent Decree, Defendant shall notify U.S. EPA and IEPA in the manner specified in 40 C.F.R. § 270.72(a) prior to the conveyance of title, easement, or any other interest, including a leasehold interest. Defendant shall make the purchasing party's compliance with the Consent Decree a condition of any sale of any portion of the Hartford Facility that is subject to this Consent Decree.

9. Defendant shall notify each contractor retained to perform work required by this



Consent Decree of each of the requirements of this Consent Decree relevant to the activities to be performed by that contractor, including all relevant work schedules and reporting deadlines. Defendant shall further require that each such contractor notify in writing each subcontractor retained to perform work required by this Consent Decree of the requirements of this Consent Decree applicable to the work to be performed by such subcontractor.

10. In any action to enforce this Consent Decree, Defendant shall not raise as a defense the failure by any of the Defendant's officers, directors, employees, agents, servants, and successors and assigns to take actions necessary to comply with the provisions hereof. Nothing in this Paragraph shall diminish the Defendant's rights under Section XIV (Force Majeure) or any other available legal defenses.

#### **IV. CLEAN AIR ACT COMPLIANCE**

11. **Buildings and Sheds**

- a. Defendant operates on the west side of the Facility's Dust Injection System Hall, an approximately 50,000 square foot building dedicated to the storage of fines ("Fines Building").
- b. Any fines not stored in the Fines Building shall be stored in another building or a closed container.
- c. Beginning with the date of entry of this Consent Decree, Defendant shall not charge materials purchased as fines to any Furnace by any means other than the Dust Injection System.
- d. Defendant shall pay a stipulated penalty of \$500 per day for any violations of any provision of this Paragraph.

12. Designated Modes of Furnace Operation

a. Defendant has designated each of its four Furnaces to operate in specific process Modes, as follows: Mode 1 - Slag Treatment; Mode 2 - Refining (Cold Charge); Mode 3 - Smelting (Smelt); and Mode 4 - Injection.

b. Defendant's operations shall comply with the production process depicted on the chart at Appendix A.

c. Defendant shall limit production for all four of its Furnaces to 900 tons per day: Provided, should Defendant, at its discretion, utilize fewer than four Furnaces at any one time, Defendant's daily maximum production shall be equal to the maximum capacity of the Furnaces being utilized, as depicted on the chart at Appendix A.

13. Fugitive Emissions Control

a. Defendant shall comply with all the terms of the Facility's IEPA-approved Fugitive Emissions Control Program dated September 1993, as revised (incorporated herein by reference). Specifically, Defendant shall:

(1) continue to implement all measures as outlined in the approved Fugitive Emissions Control Program;

(2) maintain daily records of all actions taken pursuant to the approved Fugitive Emissions Control Program and the results thereof. Daily records shall be retained for a period of five (5) years; and

(3) submit to IEPA and U.S. EPA within seven (7) working days of the end of each calendar month a fugitive emissions report, which shall contain any and all records

indicating or demonstrating the Defendant's failure to adhere to the approved fugitive emissions control program, including, but not limited to, the dates of such failure, the duration of such failure, the reasons for such failure, and all actions taken to correct such failure.

b. The results of the fugitive emissions control program shall be available for inspection and copying by IEPA and U.S. EPA; and

c. Upon demand by U.S. EPA, Defendant shall pay a stipulated penalty of \$500 per day for each day that a fugitive emission report is not timely submitted, and \$1,000 per day for each day that such a submitted report fails to contain any information required by Paragraph 13.a.(3). Upon receipt of a fugitive emission report indicating that Defendant has failed to comply with the Fugitive Emissions Control Program, U.S. EPA, taking into consideration the factors set forth in Paragraph 13.a.(3), may demand that Defendant pay a stipulated penalty of \$500 per day for each violation set forth in the report.

14. Furnace Emission Limitations

a. Furnace Nos. 1, 2, and 3 at the Facility were operated prior to May 31, 1972, and are "existing emission sources" within the meaning of IPCB Rule 101, 35 Ill. Adm. Code § 212.322. Furnace No. 4 at the Facility was constructed after May 31, 1972, and is a "new emission source" within the meaning of IPCB Rule 101, 35 Ill. Adm. Code § 212.321. However, under Defendant's current operational and emissions control programs, Furnace No. 1 is paired with Furnace No. 3 as a "Process Emission Unit" (discussed in more detail in the CPMMS Protocol (Appendix D)) and Furnace No. 2 is paired with Furnace No. 4 as a "Process Emission Unit." As such, for purposes of this Consent Decree only, the combined emissions from Furnace Nos. 1 and 3 will be subject to 35

Ill. Adm. Code § 212.322, and the combined emissions from Furnace Nos. 2 and 4 will be subject to 35 Ill. Adm. Code § 212.321. Chemetco, at its discretion, may separate Furnace Nos. 2 and 4, with the result that the emission limit for Furnace No. 2 would once again be subject to 35 Ill. Adm. Code § 212.322: Provided, such action may be undertaken only in accordance with the Clean Air Act and its implementing regulations, including the State of Illinois SIP, 40 C.F.R. § 52.720-52.742.

b. Defendant shall comply with each of the following emission limitations at all times.

(1) The opacity limitation for visible emissions from each Furnace's control device, vent, or emission point (stack), as required by 35 Ill. Adm. Code § 212.123(a);

(2) The total particulate emissions limitation for each Process Emissions Unit (as established pursuant to 35 Ill. Adm. Code § 212.321 or § 212.322, as applicable. See Paragraph 14.a.) during each process mode, including Furnace charging and tapping emissions.

c. The Process Weight Rate calculation shall not include the Residue as part of the Furnace Charge.

d. During any 12-month period described in Paragraph 20.a., Defendant shall be subject to stipulated penalties of \$500 per day for each day of violation of Paragraph 14.b.(1) not caused by a Malfunction.

15. Secondary Capture System and Control Device

a.(1) Within 60 days following the entry of this Consent Decree, Defendant shall submit for U.S. EPA's review and approval a detailed proposal for assessing and/or improving the efficiency of the Secondary Capture System and Control Device for the Foundry. The proposal shall

address the various components of the Foundry, including, but not limited to, the integrity of the roof, supporting structure, walls, duct work and baghouse.

(2) Defendant shall complete the assessment within 120 days of Defendant's receipt of U.S. EPA's written approval of the assessment proposal.

(3) A report of the results of the assessment shall be submitted to U.S. EPA and IEPA within thirty (30) calendar days following completion of the assessment. The report shall include modification descriptions, schedules for implementation, and cost estimates.

b. Defendant shall operate the Secondary Capture System and Control Device in a manner that meets all applicable emission limitations, including the opacity limitation for visible emissions as required by 35 Ill. Adm. Code § 212.123(a).

c. Within 180 days following entry of this Consent Decree, Defendant shall install pressure drop monitors for each of the eight compartments of the baghouse.

(1) Defendant shall insure that each pressure drop monitor includes a continuous monitoring and recording device that allows pressure drop monitoring of the baghouse compartments by the operators in the control room.

(2) Defendant shall establish a baseline range of operation for pressure drop, and operate the baghouse at all times within the baseline range.

(3) Defendant shall record and maintain at the Facility, for three years after installation of the last installed pressure drop monitor, the date, time, and duration, of all time periods that the baghouse operates outside of the baseline range, and the cause of and methods used to correct such deficiency.

d. Beginning 240 days following the entry of this Consent Decree, Defendant shall achieve and maintain zero visible fugitive emissions from the Foundry.

e. A violation of any provision of this Paragraph not caused by a Malfunction shall subject Defendant to stipulated penalties of \$500 per day for each violation.

16. Baseline Stack Testing

a. Baseline Stack Testing shall be performed for all mode scenarios depicted on the chart at Appendix A pursuant to the Stack Test Protocol set forth in Appendix B.

b. Within 30 days following U.S. EPA's certification of the Continuous Particulate Mass Monitor System under Paragraph 18.c., Defendant shall conduct the Baseline Stack Tests on its Furnaces.

c. During the Baseline Stack Tests, Defendant shall confirm the calibration curve for the Continuous Particulate Mass Monitoring System installed and certified pursuant to the Continuous Mass Monitoring Plan required by Paragraph 18.a.

d. Defendant shall establish baseline operating ranges of pressure drop for the control device systems of each Furnace and of scrubbing nozzle pressure for all new active air pollution control equipment.

e. Defendant may establish new baseline operating ranges for the control devices during subsequent Stack Tests, if any, provided the Stack Tests indicate compliance with all applicable limits. U.S. EPA shall be notified of any additional Stack Tests sixty (60) days prior to commencement of such tests.

f. Defendant shall require its contractor(s) to submit the results of, and a final

report on, all Stack Tests to IEPA and U.S. EPA at the same time that the contractor(s) submits such results and report to Defendant, but not later than thirty (30) days after completion of each Stack Test.

Defendant's Stack Test results and final report shall include the following for each test run:

- (1) The Mode being tested;
- (2) The Process Weight Rate with supporting calculations;
- (3) The allowable particulate matter emission rate in pounds per hour (lbs/hr), calculated pursuant to Paragraph 14.b.(2) of this Consent Decree.
- (4) For Baseline Stack Tests, the actual controlled emissions rate of particulate matter;
- (5) The actual concentration of particulate matter in pounds per day; and
- (6) Copies of the continuous monitoring charts for pressure drops and scrubbant nozzle pressure rates across each control device.

g. Defendant shall allow IEPA and U.S. EPA, without warning or advance notice, to inspect the Furnace Charges and conduct any sampling of the Charges that either IEPA or U.S. EPA deems necessary during Stack Tests.

h. Defendant shall pay stipulated penalties of \$1,000 per day per Furnace for each day that:

- (1) A Baseline Stack Test is not completed in a timely manner; and
- (2) A stack test report is not timely submitted, or fails to contain any information required by the Stack Test Protocol (Appendix B) or Paragraph 16.f, respectively, of this Consent Decree.

17. Raw Materials Management System.

a. Within 180 days following the entry of this Consent Decree, Defendant, in accordance with the Raw Materials Management System Protocol (Appendix C), shall develop, utilize and maintain a computer-based Raw Material Data Base Program to calculate and record the Daily Weighted Average of zinc and lead percentages for each recipe for each Furnace Charge.

b. Defendant shall pay stipulated penalties of \$500 per day for each violation of Paragraph 17.a.

18. Continuous Mass Monitoring of Particulates. The schedule and enforcement methodology set forth in this Paragraph shall apply to Defendant's installation and utilization of a Continuous Particulate Mass Monitoring System ("CPMMS"). Such a monitoring system has not previously been utilized in the United States on a system similar to Chemetco's.

a. Within 120 days following the entry of this Consent Decree, Defendant shall submit for review and approval by U.S. EPA a Continuous Particulate Mass Monitoring Plan. Such plan shall satisfy all the elements of the protocol for installing, certifying, operating, maintaining, and reporting from the CPMMS. (See Appendix D).

b. Within 60 days following Defendant's receipt of U.S. EPA's approval of the plan submitted pursuant to Paragraph 18.a., Defendant shall install, calibrate, operate and maintain a CPMMS on each of the emission points (stacks) servicing the Facility's four Furnaces and their air pollution control devices. Defendant also shall provide a means of computing and recording the allowable particulate emission rate in pounds per hour for each "Process Emission Unit" using the equations set forth at 35 Ill. Adm. Code §§ 212.321 and 212.322, as applicable. See Paragraph 14.a.



c. Within 30 days following the first day of operation of the CPMMS, Defendant shall perform certification tests and, within 30 days following completion of such tests, Defendant shall provide to U.S. EPA, for purposes of U.S. EPA's approval and certification of the CPMMS, all data (including all test results) developed by Defendant to demonstrate that the CPMMS satisfies all of the certification requirements set forth in the CPMMS Protocol (Appendix D).

d. After the CPMMS is operational on each of the Facility's emission points (stacks) and certification testing is completed, Defendant shall demonstrate continuous compliance with the emission limits established pursuant to Paragraph 14.b.(2) of this Consent Decree, using the emission measurements provided by the CPMMS.

e. No later than the 30 days following the last day of each calendar quarter, starting with the calendar quarter in which U.S. EPA certifies the CPMMS, Chemetco shall submit to U.S. EPA and IEPA a report, using the data obtained from the CPMMS (in standard units of measure and the appropriate averaging time), of all one-hour periods of emissions that are in excess of the emission limitations established pursuant to Paragraph 14.b.(2) of this Consent Decree. Each such report shall include the date, time and magnitude of excess particulate emissions, statements as to the probable cause of the excess emissions, descriptions of the corrective action(s) that may have been undertaken by Chemetco, and information as to the periods of and reasons for non-operation or malfunction of the CPMMS, if appropriate.

f. Until this Consent Decree is terminated, U.S. EPA will review and evaluate the excess emission reports required by subparagraph "e" of this Paragraph, and any other monitoring reports or incident reports provided to U.S. EPA by Defendant, and will determine, based on those

reports, whether violations of this Paragraph have occurred: Provided, recorded and reported excess emissions solely attributable to a malfunction of the CPMMS shall not form the basis of a claim for stipulated penalties under this Consent Decree.

g. Chemetco shall be subject to a stipulated penalty of \$500 per day for violations of any provision of this Paragraph.

19. Election of Optional Stack Testing and Potential Operational Restrictions. The following provisions shall apply to the performance of stack tests if either party concludes that the CPMMS or the data derived therefrom is unreliable:

a. At any time following 180 days after the U.S. EPA's certification of the CPMMS under Paragraph 18.c., U.S. EPA may require, or Defendant at its discretion may perform, a Stack Test on a particular emission point (stack) if:

(1) U.S. EPA has demanded stipulated penalties under Paragraph 18.f. for more than two consecutive calendar quarters;

(2) the CPMMS for a particular stack has malfunctioned for more than 25% of the calendar quarter; or

(3) U.S. EPA and Defendant disagree on the validity of the information set forth in the reports required under Paragraph 18.e. of this Consent Decree.

b. Should U.S. EPA require the performance of Stack Tests under the provisions of Paragraph 19.a., such Stack Tests shall be initiated within 60 days following Defendant's receipt of U.S. EPA's written notification that Stack Tests must be conducted.

c. The provisions of Paragraph 16.f. and 16.g. of this Consent Decree,

applicable to Baseline Stack Tests, shall apply equally to any Stack Tests that may be performed under this Paragraph.

d. Should a Stack Test conducted under this Paragraph demonstrate that a combination of Furnace Modes has exceeded an emission limitation for a Process Emission Unit established pursuant to Paragraph 14.b.(2) of this Consent Decree, and such exceedance is not the result of a Malfunction, Defendant shall stop operation of such Furnace Mode combination immediately upon receipt of the Stack Test results (but no later than fifteen (15) days after the last Stack Test date) except that:

(1) Defendant, upon written concurrence of U.S. EPA, may engage in full operation of the subject Furnace Mode combination, without incurring a penalty, only for the purposes of conducting retests to identify which Furnace Mode or Modes caused the emissions limitation to be exceeded, and the emissions reduction impact of remedial measures or changes to Furnace Charges: Provided, operations under this subparagraph shall not exceed fourteen (14) days without the written approval of U.S. EPA;

(2) If a Furnace Mode combination is shut down or its operations restricted pursuant to this Paragraph, unlimited operation of the subject Furnace shall not recommence until all of the following occur:

(a) Defendant certifies to IEPA and U.S. EPA that it has completed construction of or improvements to the air pollution control devices or changes in Charges;

(b) U.S. EPA receives the results of completed emissions tests that demonstrate compliance with the emissions limitations established pursuant to Paragraph 14.b.(2) of

this Consent Decree, and

(c) Defendant pays any stipulated penalty that may have accrued under this Paragraph.

e. Defendant shall pay stipulated penalties of:

(1) \$500 for each day that a Stack Test, the performance of which is required by U.S. EPA under Paragraph 19.a., is not timely conducted, beginning on the 60th day following Chemetco's receipt of a written notification under Paragraph 19.b.;

(2) \$2500 per day for violations of Paragraph 19.d.

20. Governance of Stack Test Data Instead of CPMMS Data.

a. If either U.S. EPA or Chemetco elects to impose a Stack Test requirement pursuant to Paragraph 19.a, the data generated through such Stack Tests (as opposed to any data generated by the CPMMS) shall govern, for a period of 12 months beginning on the date that U.S. EPA receives the Stack Test report (See Paragraphs 16.f. and 19.c.) , Chemetco's compliance with the emission limitations established pursuant to Paragraph 14.b.(2) of this Consent Decree.

b. During any 12-month period described in Paragraph 20.a. , Defendant shall ensure that the Daily Weighted Average of lead and zinc percentages of each charge, as maintained in the Raw Material Data Base, do not exceed those percentages determined for each of the materials utilized to create the Recipes for Furnace Charges processed during the Stack Tests demonstrating compliance with air emissions limitations established pursuant to Paragraph 14.b.(2) of this Consent Decree.

c. (1) Defendant has installed new air pollution control devices on the

emission points (stacks) for the Hartford Facility's four rotary Furnaces.

(2) Defendant has equipped each new air pollution control device with appropriate monitoring and recording devices, including, but not limited to:

(a) continuous pressure drop monitors and recording devices for all new active air pollution control equipment; and

(b) continuous scrubbant nozzle pressure monitors and recording devices for all new active air pollution control equipment.

d. During any 12-month period in which stack test data shall govern Defendant's compliance with the limitations established pursuant to Paragraph 14.b.(2) of this Consent Decree (See Paragraph 20.a.), the data derived from the monitors described in preceding Paragraph 20.c.(2)(a) and (b) shall be used in lieu of the data derived from the CPMMS to assess Defendant's compliance with the limitations established pursuant to Paragraph 14.b.(2) of this Consent Decree.

e. Defendant shall operate the control device systems at all times following the initial baseline stack tests within the established baseline operating ranges

f. Defendant shall calibrate, operate, and maintain all new air pollution control devices and all continuous monitoring and recording devices in a manner that ensures accurate and precise operation.

g. During any 12-month period in which stack test data shall govern Defendant's compliance with the limitations established pursuant to Paragraph 14.b.(2) of this Consent Decree (See Paragraph 20.a.), Defendant shall collect and record the following information for each new air pollution control device system as each such device becomes operational:

- (1) Continuous pressure drop monitoring data and continuous scrubbant nozzle pressure monitoring data;
- (2) Operating times for each Furnace control device system, associated monitoring equipment, and each Furnace;
- (3) Records of all routine and non-routine maintenance performed on each control device system and associated monitoring equipment, including dates and duration of any outages; and,
- (4) The date, duration, cause, and response to all periods of operation during which the pressure drop of the control device system is outside of the baseline range established during the baseline stack test.

h. Defendant shall maintain for at least three years the information collected pursuant to Paragraph 20.g.

i. Defendant shall pay stipulated penalties of \$500 per day for each violation of any provision of Paragraph 20.e. thru 20.h.

21. Maintenance of Ambient Air Quality Standard

a. Beginning with the first full calendar quarter following entry of this Consent Decree, Defendant shall not violate any applicable ambient air quality standard for lead or particulate matter required by IPCB Rule 102 (See 35 Ill. Adm. Code §§ 243.126, 243.108), as demonstrated by the approved ambient air monitoring program at the Facility.

b. Defendant shall carry out immediately and in their entirety the terms of the Facility's IEPA-approved Ambient Air Monitoring Program dated August 1993, as revised (which is

incorporated herein by reference), including but not limited to:

- (1) Compliance with all requirements for sampling, validation, location, analysis, operating procedures, maintenance, calibration, data reduction, reporting, quality assurance, monitoring methodology, and instrumentation;
  - (2) Collection of enough samples to ensure the compilation of valid quarterly emissions data, as set forth in the terms of the approved ambient air monitoring program;
  - (3) Refraining from any and all actions that could potentially undermine the efficiency or accuracy of the approved ambient air monitoring program, including but not limited to the construction, placement or use of water screens or spraying devices at or near the Facility's ambient air monitors;
  - (4) Not moving the Facility's ambient air monitors, without prior written approval from IEPA and U.S. EPA;
  - (5) Not deviating from the approved ambient air monitoring program without prior written approval from IEPA and U.S. EPA; and
  - (6) Continuing to submit the results of the ambient air monitoring program to IEPA and U.S. EPA on a quarterly basis within thirty (30) calendar days of the end of each quarter.
- c. Defendant shall continue the approved ambient air monitoring program until:
- (1) Defendant demonstrates to IEPA and U.S. EPA that it has been in compliance with the NAAQS for lead for a period of twelve (12) consecutive calendar quarters after entry of this Consent Decree; and
  - (2) Defendant receives written notice from U.S. EPA that Defendant may

cease the approved ambient air monitoring program.

d. Defendant shall pay the stipulated penalties set forth below for violations of the provisions of this Paragraph not caused by a Malfunction:

(1) \$1,000 for each violation of a quarterly NAAQS arithmetic mean limitation;

(2) \$5,000 for each violation of an annual NAAQS arithmetic mean limitation; and

(3) \$1,000 per day for each day that Defendant fails to comply with the approved ambient air monitoring program.

#### **V. AUDIT REQUIREMENTS**

22. Nothing in this Consent Decree shall be construed to limit or otherwise affect the right of U.S. EPA to conduct and resolve any audit, or render any report authorized pursuant to the Inspector General Act of 1978, Pub.L. 95-452, Oct. 12, 1978, 92 Stat. 1101, as amended, 5 U.S.C. App. 3.

#### **VI. CIVIL PENALTY**

23. Defendant shall pay a civil penalty in the amount of \$305,267 in full satisfaction of the United States' claims for civil penalties as alleged in the Complaint through the date of lodging of this Consent Decree, recognizing that Defendant has previously paid \$305,000 to the State of Illinois. Defendant shall pay \$150,000 of the civil penalty amount within thirty (30) days following the date of entry of this Consent Decree, and shall pay the remaining \$155,267 within 12 months of the date of the first payment. The payments will be made by Fed Wire Electronic Funds Transfer ("EFT") to the



Department of Justice Lockbox Bank in accordance with specific instructions to be timely provided to Defendant upon entry of this Consent Decree and will reference DOJ Case No. 90-5-2-1-1845; United States Attorney, Southern District of Illinois, File No. 1998V00228. Funds received at the Lockbox Bank after 11:00 a.m. (Eastern Time) will be credited on the next business day. Defendant will advise the Financial Litigation Unit of the United States Attorney's Office for the Southern District of Illinois at the time payment is being wire-transferred. In addition, Defendant will confirm to U.S. EPA and the Department of Justice that payment has been made in accordance with Section X (Notices and Submissions). Interest and late charges will be paid as specified in Paragraph 24.

24. Commencing thirty (30) days after the date this Consent Decree is entered, interest shall accrue on the penalty, or any portion thereof that is overdue, at the rate set by 31 U.S.C. § 3717 and shall continue to accrue until the penalty is paid. A late payment handling charge of \$20.00 shall be imposed after thirty (30) days, with an additional charge of \$10.00 for each subsequent thirty (30) day period over which an unpaid balance remains. In addition, a six (6) percent per annum penalty shall be applied on any principal amount not paid within ninety (90) days of the entry of this Consent Decree.

25. Upon entry of this Consent Decree, the civil penalty provided for in this Section shall be a debt owed to the United States. Collection of this debt shall be subject to the Federal Debt Collection Procedures Act, 28 U.S.C. § 3001 *et seq.*

26. Chemetco shall not deduct its payment of the civil penalty provided for in this Section for any tax purpose or otherwise obtain any favorable tax treatment of, or for, such civil penalty payment.

## **VII. STIPULATED PENALTIES**

27. The stipulated penalties herein shall be in addition to, and shall in no way limit, other remedies or sanctions available to the United States by reason of the Defendant's failure to comply with the requirements of this Consent Decree, the CAA or the Illinois SIP. However, if the United States collects a stipulated penalty from the Defendant under this Consent Decree and subsequently seeks and is awarded a monetary penalty under the CAA or the Illinois SIP for the same act or omission, the Defendant shall receive a credit against the judgment for the amount of the paid stipulated penalty.

28. Failure by the United States to demand stipulated penalties shall have no effect on the accrual of such penalties.

29. a. Stipulated penalties are due by the 15th day of the month following the month in which the violations occurred or in which U.S. EPA made a stipulated penalty demand under the provisions of this Consent Decree.

b. Payments of Stipulated Penalties shall be made in accordance with the procedures set forth in Paragraph 23.

c. At the same time Defendant submits a payment of stipulated penalty, Defendant shall send a letter to U.S. EPA, the U.S. Department of Justice, and IEPA notifying those entities of the payment of the stipulated penalty and identifying the case name, court, docket number, specific stipulated penalty provision involved, and a description of the violations of this Consent Decree for which the stipulated penalties were tendered.

d. The United States may, in its discretion and not subject to judicial review,

determine that stipulated penalties for violations of any provision of this Consent Decree need not be paid.

30. Any dispute with respect to Defendant's liability for a stipulated penalty shall be resolved by this Court pursuant to the dispute resolution provisions of Section VIII of this Consent Decree.

31. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity: Provided, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Paragraphs 13.c., 16.f., and 18.e., during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Defendant of any deficiency; (2) with respect to Dispute Resolution under Section VIII, during the period, if any, beginning on the date of U.S. EPA's receipt of Defendant's statement of position and ending on the date that the Director issues a final decision regarding such dispute or, (3) with respect to judicial review, if any, under Paragraph 35, from the date that all briefs described in Paragraph 35 are received by the Court until the Court issues its final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

#### **VIII. DISPUTE RESOLUTION**

32. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, the procedures set forth in this Section shall not

apply to actions by the United States to enforce obligations of the Settling Defendants that have not been disputed in accordance with this Section.

33. The parties shall make reasonable, good faith efforts to resolve informally all disputes or differences of opinion regarding the meaning or implementation of this Consent Decree. If the parties cannot resolve any such dispute, the interpretation advanced by U.S. EPA shall be considered binding unless, within 15 days after the conclusion of the informal negotiation period, Defendant invokes the dispute resolution provisions of this Section.

34. Defendant shall invoke the formal dispute resolution procedures set forth in Paragraphs 34 thru 38 by serving on the United States a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Defendant. Within 15 days after receipt of Defendant's Statement of Position, U.S. EPA will serve on Defendant its Statement of Position, which shall include, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by U.S. EPA. Within 10 days after receipt of U.S. EPA's Statement of Position, Defendant may submit a Reply.

35. Following receipt of Defendant's Statement of Position and reply, if any, submitted pursuant to Paragraph 34, the Director of the Air Division, U.S. EPA Region 5, will issue a final decision resolving the dispute. The Air Division Director's decision shall be binding on the Defendant unless, within 15 days of receipt of such decision, the Defendant files with the Court and serves on the United States a motion for judicial review of the decision setting forth the matter in dispute, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly

implementation of the Consent Decree. Any response by the United States must be filed within 15 days of the date that Defendant's motion is due.

36. Judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

37. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Defendant under this Consent Decree, not directly in dispute, unless U.S. EPA or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first day of noncompliance with any applicable provision of this Consent Decree, except as set forth in Paragraph 31, but payment shall be stayed pending resolution of the dispute. In the event that Defendant does not prevail on the disputed issue, stipulated penalties shall be paid as provided in Paragraph 29.

38. In proceedings on any dispute governed by this Paragraph, Settling Defendants shall have the burden of demonstrating that the decision of the Air Division Director is arbitrary and capricious or otherwise not in accordance with law.

#### **IX. INSPECTIONS**

39. Until termination of this Consent Decree, U.S. EPA and their representatives, contractors, consultants, and attorneys shall have the authority to enter the Facility at all times upon proper presentation of credentials to the manager or managers of the Facility for the purposes of:

- a. monitoring the progress of activities required by this Consent Decree;
- b. verifying any data or information submitted to EPA in accordance with the terms of this Consent Decree;

c. conducting, pursuant to written protocols, any sampling or testing that U.S. EPA believes necessary to determine Defendant's compliance with this Consent Decree; or

d. otherwise assessing Defendant's compliance with this Consent Decree.

This provision in no way limits or affects any rights of entry and inspection held by either U.S. EPA pursuant to applicable federal or state laws or regulations.

#### **X. NOTICES AND SUBMISSIONS**

40. a. Whenever, under the terms of this Consent Decree, notice is required to be given or a document is required to be submitted by one party to another, such notices or submissions shall be directed to the individuals at the addresses specified in subparagraph "d" below, unless those individuals or their successors give notice of a change to all listed individuals, and their successors. Receipt of written notice as specified herein shall constitute complete satisfaction of any written notice requirement of this Consent Decree with respect to the United States, U.S. EPA and Defendant, respectively.

b. Defendant's notifications to or communications with U.S. EPA shall be deemed submitted on the date they are postmarked and sent by certified mail, return receipt requested. Such notifications and communications that are sent to U.S. EPA using sources other than the U.S. Postal Service will be deemed submitted on the day they are received by the United States.

c. All notifications and submissions required under this Consent Decree by Chemetco shall be signed by a responsible agent of Chemetco and shall include the following certification:

I certify under penalty of law that this document and all attachments were prepared

under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

d. Except as specified otherwise herein, all written notifications or communications between the parties relating to this Consent Decree shall be addressed as follows:

As to the U.S. Dept. of Justice:

[By U.S. Mail]

Chief, Environmental Enforcement Section  
U.S. Department of Justice  
Re: 90-5-2-1845  
P.O. Box 7611  
Washington, D.C. 20044

[By Overnight/Courier]

Chief, Environmental Enforcement Section  
Re: 90-5-2-1845  
U.S. Department of Justice  
1425 New York Ave., N.W.  
13th Floor  
Washington, D.C. 20005  
As to U.S. EPA:

Jeffery Trevino  
Assistant Regional Counsel  
U.S. Environmental Protection Agency  
Region 5  
77 West Jackson Boulevard (C-14J)  
Chicago, Illinois 60604-3590

Chief, Air Enforcement Assurance Branch  
U.S. Environmental Protection Agency  
Region 5  
77 West Jackson Boulevard (AE-17J)  
Chicago, Illinois 60604-3590

As to Defendant:

Chemetco, Inc.  
Director of Environmental Health and Safety  
Route 3 and Oldenburg Road  
Hartford, Illinois 62048

#### **XI. SCOPE OF SETTLEMENT**

41. a. Compliance with each and every requirement of this Consent Decree shall satisfy all civil liability of the Defendant for the United States' civil claims under the Clean Air Act specifically alleged in the Complaint through the date of lodging of this Consent Decree.

b. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's complete compliance with this Consent Decree will result in compliance with the provisions of the Act, its implementing regulations, any permit, or this Consent Decree. Notwithstanding U.S. EPA's review and approval of any plans formulated pursuant to this Consent Decree, Defendant shall remain solely responsible for compliance with the Act, its implementing regulations, and this Consent Decree.

#### **XII. EFFECTIVE DATE**

42. This Consent Decree shall be effective upon entry by this Court.

#### **XIII. TERMINATION**

43. This Consent Decree may be terminated by this Court upon the Court's granting a



motion by Defendant, after certification by Defendant to the United States, and the Court, that Defendant has achieved compliance with all provisions of this Consent Decree, has been in compliance with all applicable requirements of this Consent Decree, the Act and the regulations promulgated pursuant thereto for twelve (12) consecutive calendar quarters following entry of this Consent Decree and has paid all civil and stipulated penalties due. The United States shall advise the Court, within 30 days of the filing of Defendant's motion, as to the propriety of such motion to terminate.

#### **XIV. FORCE MAJEURE**

44. If any event occurs that causes or may cause the Defendant to violate any provision of this Consent Decree, Defendant shall notify the United States in writing within five (5) days of the date on which the Defendant knew or should have known of such event. The notice shall describe in detail the anticipated length of time the violation may persist, the precise cause or causes of the violation, the measures taken or to be taken by the Defendant to prevent or minimize the violation and the timetable by which those measures will be implemented. The Defendant shall adopt all reasonable measures to avoid or minimize any such violation. Defendant's failure to comply with the notice requirements of this Section shall render this Section void and of no effect as to the particular incident involved, and shall constitute a waiver of the Defendant's right to obtain an extension of time under this Section for its obligations based on such incident.

45. If the parties agree that the violation has been or will be caused by circumstances entirely beyond the control of the Defendant, or any entity controlled by or under the common control of the Defendant, including the Defendant's consultants and contractors, and the Defendant could not

have prevented such violation, the time for performance of such requirement may be extended for a period not to exceed the actual delay resulting from such circumstances, and stipulated penalties shall not be due for said delay. In the event the parties are unable to agree, the matter may be submitted by either party to the Court for resolution pursuant to Section VIII. If the violation is determined by the Court to have been caused entirely by circumstances beyond the control of the Defendant, or any entity controlled by or under the common control of the Defendant, the Defendant may be excused as to that violation for the period of time the violation continues due to such circumstances.

46. The Defendant shall bear the burden of proving that any delay was caused by circumstances entirely beyond the control of the Defendant or any entity controlled by or under the common control of the Defendant.

47. Unanticipated or increased costs or expenses associated with the implementation of actions called for by this Consent Decree or changed financial circumstances shall not, in any event, be a force majeure event and shall not serve as a basis for changes in this Consent Decree or extensions of time under this Consent Decree.

48. Compliance with any requirements of this Consent Decree by itself shall not constitute compliance with any other requirement. An extension of one compliance date based on a particular incident does not result in an extension of a subsequent compliance date or dates. The Defendant must make an individual showing of proof regarding each delayed incremental step or other requirement for which an extension is sought.

## **XV. CONTINUING JURISDICTION**

49. The Court shall retain jurisdiction after entry of this Consent Decree to modify or enforce its terms or to take any action necessary or appropriate for its construction or execution.

## **XVI. APPENDICES**

50. The following documents are appended to and incorporated in this Consent Decree: Appendix A is a Chart Identifying the Furnace Mode Combinations for Maximum Operations; Appendix B is the Stack Test Protocol; Appendix C is the Raw Materials Management System Protocol Requirements; and Appendix D is the CPMMS Protocol.

## **XVII. GENERAL PROVISIONS**

51. Compliance with the terms of this Consent Decree does not affect Defendant's obligation to comply with all applicable requirements of the Clean Air Act and regulations promulgated thereunder, and all other applicable requirements of Federal, State or local law.

52. This Consent Decree does not limit the ability of the United States to pursue its rights and remedies under any law or regulation or any Order of this Court.

53. Defendant acknowledges that it has been advised that it also may be subject to the applicable requirements of CAA Section 120, 42 U.S.C. Section 7420, providing for assessment of non-compliance penalties for violations occurring after the date of lodging of this Consent Decree.

54. Each party shall bear its own costs and attorney's fees in this action.

55. Except for technical or schedule changes, any modification of this Consent Decree must be in writing, signed by each of the parties, and approved by this Court before it becomes effective. Proposed modifications that do not result in a written agreement may be subject to dispute

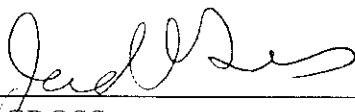
resolution.

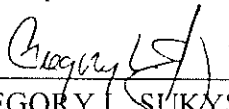
56. The public shall be given notice of this Consent Decree and an opportunity to comment on its provisions, pursuant to CAA Section 113(g), 42 U.S.C. § 7413(g), and 28 C.F.R. § 50.7. Following the close of the comment period, the United States may withdraw or modify its consent to the terms of this Consent Decree on the basis of comments received.

#### **XVIII. SIGNATORIES**

57. The undersigned representative of Chemetco, Inc., and the Chief, Environmental Enforcement Section, Environment and Natural Resources Division, United States Department of Justice each certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree, to execute it and bind the party each person represents to this document.

FOR THE UNITED STATES OF AMERICA:


  
\_\_\_\_\_  
JOEL GROSS  
Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice

  
\_\_\_\_\_  
GREGORY L. SUKYS  
Environmental Enforcement Section  
U.S. Department of Justice  
P.O. Box 7611  
Washington, D.C. 20044  
(202) 514-2068/616-6584 (FAX)

Consent Decree: United States of America v. Chemetco, Inc., Civ. No. 93-482-WDS (S.D. Ill.).

FOR THE UNITED STATES OF AMERICA:

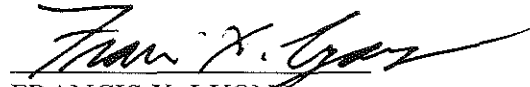
W. CHARLES GRACE  
United States Attorney  
Southern District of Illinois

  
GERALD BURKE

Assistant U.S. Attorney  
Southern District of Illinois  
9 Executive Drive, Suite 300  
Fairview Heights, IL 62208  
(618) 628-3700/3720 (FAX)

Consent Decree: United States of America v. Chemetco, Inc., Civ. No. 93-482-WDS (S.D. Ill.).

FOR THE UNITED STATES OF AMERICA:



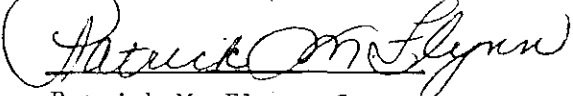
FRANCIS X. LYONS  
Regional Administrator  
U.S. Environmental Protection Agency  
Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590



JEFFERY M. TREVINO  
Associate Regional Counsel  
U.S. Environmental Protection Agency  
Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Consent Decree: United States of America v. Chemetco, Inc., Civ. No. 93-482-WDS (S.D. Ill.).

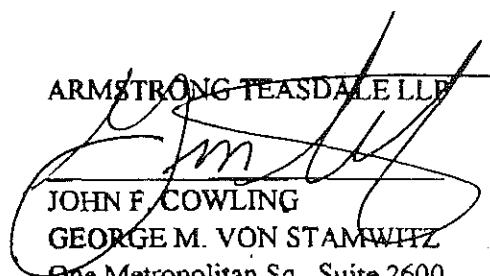
FOR CHEMETCO, INC.:

  
Patrick M. Flynn, Secretary

Chemetco, Inc.  
Route 3 and Oldenburg Road  
Hartford, IL 62048

ARMSTRONG TEASDALE LLP

By:

  
JOHN F. COWLING  
GEORGE M. VON STAMWITZ  
One Metropolitan Sq., Suite 2600  
St. Louis, Missouri 63102  
(314) 621-5070

Attorneys for Chemetco, Inc.

IT IS SO ORDERED.

Date:

4 January ~~1999~~ 2000

  
UNITED STATES DISTRICT COURT JUDGE

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

Plaintiff,

CIV. NO. 93-482-WDS

v.

Judge Stiehl

CHEMETCO, INC.,

Defendant.

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**CONSENT DECREE**

**APPENDIX A**

**(CHART IDENTIFYING MODE COMBINATIONS FOR MAXIMUM OPERATIONS)**



FURNACE OPERATIONS

	#3 FURNACE	#1 FURNACE	#2 FURNACE	#4 FURNACE
8 HOURS	INJECTION	SMELT		
	INJECTION	SMELT		
16 HOURS	INJECTION	SMELT		
	INJECTION	SMELT		
24 HOURS	INJECTION	SMELT		

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

Plaintiff,

CIV. NO. 93-482-WDS

v.

Judge Stiehl

CHEMETCO, INC.,

Defendant.

---

**CONSENT DECREE**

**APPENDIX B**

**(STACK TEST PROTOCOL)**

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

Plaintiff,

CIV. NO. 93-482-WDS

v.

Judge Stiehl

CHEMETCO, INC.,

Defendant.

---

**CONSENT DECREE**

**APPENDIX C**

**(RAW MATERIALS MANAGEMENT SYSTEM PROTOCOL REQUIREMENTS)**

### **Raw Materials Management System Protocol Requirements**

Chemetco shall utilize the raw materials management system and process analyses described in this Protocol.

a. Within 180 days after entry of this Consent Decree, Chemetco shall develop and utilize and maintain a computer-based Raw Material Data Base program to calculate and record the Weighted Average of zinc and lead percentages for each recipe for each Furnace Charge.

(1) Chemetco shall generate its Raw Material Data Base each day and retain it at the Facility until termination of this Consent Decree;

(2) Chemetco shall make the Raw Material Data Base available to IEPA and U.S. EPA upon request for inspection and photocopying.

b. Chemetco shall employ sampling and analytical standard operating procedures conducted in accordance with Chemetco's Standard Operating Procedure No. 1 or 2, where applicable, as set forth in Appendix C, whenever Chemetco handles, accepts, or stores any scrap material and assigns an assay based on sampling and analyses, historical data, or sight-grading, to any scrap material it accepts for use in the Facility's Furnaces.

c. Chemetco shall maintain a scrap material history file: after Chemetco assigns any scrap material an assay, that assignment shall become a part of the scrap material history file and added to the Raw Material Data Base.

d. Chemetco shall transfer to a storage area assigned a specific location code any scrap material after it is accepted for processing. Chemetco shall include this code in the Raw Material Data Base.

e. Chemetco shall maintain any scrap material in a separate stockpile area and assign such separate stockpile area a separate location code in Chemetco's Raw Material Data Base if Chemetco accepts such scrap material for processing and the zinc or lead percentage in such scrap material exceeds the Weighted Average determined for that type of material during the stack tests.

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

Plaintiff,

CIV. NO. 93-482-WDS

v.

Judge Stiehl

CHEMETCO, INC.,

Defendant.

---

**CONSENT DECREE**

**APPENDIX D**

**(CPMMS PROTOCOL)**

**CONTINUOUS PARTICULATE MASS MONITOR SYSTEM PROTOCOL  
(FOR CONSENT DECREE IN U.S. v. CHEMETCO, INC., NO. 93-482-WDS, S.D. ILL)**

**I. Purpose**

U.S. EPA and Chemetco agree that the Chemetco shall procure, install, calibrate, operate, and maintain a Continuous Particulate Mass Monitoring System ("CPMMS") on each of the emission points (stacks) serving the Furnaces and their air pollution control devices to:

- A. Provide Chemetco with near real time, particulate mass emissions rate data for improving operation and maintenance of the Furnaces and the associated air pollution control devices and thereby minimizing particulate and lead emissions at all times;
- B. Provide U.S. EPA and Chemetco with continuous particulate mass emissions information in the units of the applicable Illinois emissions standard and thereby minimize their reliance upon surrogate measurements, like opacity and pressure drop across control devices, for monitoring compliance with the Furnaces' particulate emissions rate;
- C. Minimize the number of stack tests that would be required, by the Consent Decree to which this Protocol is appended ("Consent Decree"), for determining 'continuous compliance' with the Furnaces' particulate emissions rate and for potentially eliminating the need for stack tests after the certification of the CPMMSs and through the life of the Consent Decree;
- D. Provide an agreed source of credible evidence for demonstrating 'continuous compliance' with the particulate emission limits;
- E. Demonstrate the utility of a CPMMS for monitoring a secondary copper smelter's furnace emissions.

**II. Monitoring Equipment**

- A. The CPMMS shall be comprised of a continuous particulate mass monitor ("Mass Monitor") measuring particulate matter concentration on an hourly basis and a monitoring device or system ("Flow Monitor") for measuring the exhaust gas flow on an hourly basis. Chemetco shall provide a means of computing and recording the values of the particulate emission rate in pounds per hour from the Mass Monitor hourly mass concentration values and the Flow Monitor hourly values. Chemetco shall also provide a means of computing and recording the allowable particulate emission rate on an hourly basis for each "Process Emission Unit" using the equations in Illinois Administrative Code Title 35, §212.321 and §212.322 and information on the Furnace charges from the Raw Materials Management System.

### III. Process Emission Units

- A. CPMMSs shall be installed to monitor continuously the particulate mass emissions rate from the Process Emission Units - Furnaces No. 1 and 3 discharging through Stacks No. 1 and 3, and Furnaces No. 2 and 4 discharging through Stacks No. 2 and 4.
- B. Furnaces No. 1 and 3, as a Process Emission Unit, shall be subject to a process weight rate emission limitation pursuant to Illinois Administrative Code Title 35, §212.322. For each hour of operation of the Process Emission Unit, Chemetco shall compute and record the allowable particulate emission limit and shall combine the CPMMSs' measured emissions from each stack to provide, in pounds per hour, the particulate matter emission rate.
- C. Furnaces No. 2 and 4, as a Process Emission Unit, shall be subject to a process weight rate emission limitation pursuant to Illinois Administrative Code Title 35, §212.321. For each hour of operation of the Process Emission Unit, Chemetco shall compute and record the allowable particulate emission limit and shall combine the CPMMSs' measured emissions from each stack to provide, in pounds per hour, the particulate matter emission rate.

### IV. Installation and Certification Schedule

- A. Within 60 days following Chemetco's receipt of U.S. EPA's approval of the Continuous Particulate Mass Monitoring Plan required by Paragraph 18 of the Consent Decree, Chemetco shall procure and install a CPPMS on each stack serving Furnaces No. 1 & 3 and on each stack serving Furnaces No. 2 & 4. Chemetco shall install the Mass Monitors pursuant to the installation requirements found in Section 5 of ISO 10155:1995(E); (with the exception that the particulate matter reference measurement method to be used should be Reference Method 5, Appendix A, 40 C.F.R. Part 60 instead of ISO 9096) and shall install the Flow Monitors pursuant to the installation requirements found in Section 1.2.1 of Appendix A, 40 C.F.R. Part 75. If Chemetco chooses to install CPMMSs which require heated bypass duct systems for proper sampling and processing of wet, aerosol-laden exhaust gases, the installation and certification schedule shall be extended an additional 60 days to provide for the design and engineering of those bypass systems.
- B. No later than 30 days after Chemetco installs and begins to operate its CPMMS, Chemetco shall conduct and complete tests to demonstrate that the "Mass Monitor" conforms to the performance characteristics and test specifications found in the international standard for the automated monitoring of the mass concentration of particulate matter in stationary source gas streams, ISO 10155:1995(E);
- C. No later than 30 days after Chemetco installs and begins to operate its CPMMS, Chemetco shall conduct and complete tests to demonstrate that the installed "Flow Monitor" conforms to the performance characteristics and test specifications found in the 40 C.F.R. Part 75 Appendix A, Sections 2.1.4, 2.2.2, 6.3.2, 6.5.2, 6.5.8, 6.5.9, 6.5.10, 7.2.2 and 7.3

- D. From the date of installation and operation of the CPMMS to no later than 210 days after entry of the Consent Decree, Chemetco's combined emissions from Furnaces 1 & 3 discharged through stacks 1 & 3 shall comply with an interim particulate matter emission rate of 32.00 pounds per hour and Chemetco's combined emissions from Furnaces 2 & 4 discharged through stacks 2 & 4 shall comply with an interim particulate matter emission rate of 13.00 pounds per hour.

#### V. Certification

- A. Chemetco shall test each CPMMS to demonstrate conformance with the certification requirements;
- B. Chemetco shall test the Mass Monitor in each CPMMS to demonstrate conformance with the Response Time, Zero Drift, Span, Span Drift and Calibration specifications found in be Section 6 of ISO 10155:1995(E); using the test procedures in Section 7;
- C. During the Mass Monitor Calibration test, Chemetco shall acquire at least nine sets of particulate concentration measurements for each CPMMS (each set a minimum of one hour duration). The Chemetco shall arrange for acquisition of at least three sets of such data reflecting a combination of Furnace Modes within a Process Emission Unit that are associated with low emission rates, at least three sets of data reflecting a combination of Furnace Modes within a Process Emission Unit associated with intermediate emission rates, and at least three sets of data reflecting a combination of Furnace Modes within a Process Emission Unit associated with high emission rates.
- D. Chemetco shall test the Flow Monitor in each CPMMS to demonstrate conformance with the Calibration Error specification - less than or equal to 3.0 percent of span - using the test procedures in Sections 6.3.2 and 7.2.2 of 40 C.F.R. Part 75 Appendix A; the span of the Flow Monitor shall be 125 percent of either the maximum potential velocity or maximum potential flow (scfh -wet basis) in the monitored stack;
- E. Chemetco shall test the Flow Monitor in each CPMMS to demonstrate conformance with the Relative Accuracy specification - 15 percent - using the test procedures in Sections 6.5.2, 6.5.4, 6.5.8, 6.5.9 and 6.5.10.

#### VI. Quality Control

- A. Chemetco shall perform on the Flow Monitor a daily calibration error test and an interference check ( 40 C.F.R. Part 75, Appendix A, Sections 2.2.2.1 and 2.2.2.2, respectively). The Chemetco shall perform on the Mass Monitor a daily Zero and Span Drift Check (ISO 10155:1995(E) Section 7.3.3). Corrective actions or adjustments are required on the monitors if calibration error or drift values or accumulated automatic adjustments exceed 6 percent of the



span or interference is detected.

## VII. Record Keeping & Reporting

- A. Within 30 days following completion of certification tests required by Paragraph 18.c. of the Consent Decree, Chemetco shall report to U.S. EPA, in accord with provisions in the Consent Decree, test results and supporting data on the certification of each of the continuous particulate mass monitoring systems.
- B. Chemetco shall maintain in an electronic database records of its process weight (furnace charge) in tons per hour, the Process Emission Unit's allowable emission rate in pounds per hour, each Mass Monitor's hourly values, each Flow Monitor's hourly value, each CPMMS emission rate in pounds per hour, the Process Emission Unit's emission rate in pounds per hour, and the percentage of lead in the charge. Those records should be available for review and inspection by U.S. EPA and IEPA.
- C. Chemetco shall compute and store the allowable emission rates for Furnaces No. 1 & 3 using the equation  $E = C + A(P)^B$ .
- $E$  = allowable emission rate in pounds per hour.  
 $C$  = 0 for process weight rates up to 30 tons per hour or -40 for process rates in excess of 30 tons per hour.  
 $A$  = 4.10 for process weight rates up to 30 tons per hour or 55.0 tons per hour for process weight rates in excess of 30 tons per hour.  
 $B$  = 0.67 for process weight rates up to 30 tons per hour or 0.11 tons per hour for process weight rates in excess of 30 tons per hour.  
 $P$  = process weight rate in tons per hour.
- D. Subject to the provisions of Paragraph 14.a. of the Consent Decree, Chemetco shall compute and store the allowable emission rates for Furnaces No. 2 & 4 using the equation  $E = A(P)^B$ .
- $E$  = allowable emission rate in pounds per hour.  
 $A$  = 2.54 for process weight rates up to 450 tons per hour or 24.8 tons per hour for process weight rates in excess of 450 tons per hour.  
 $B$  = 0.534 for process weight rates up to 450 tons per hour or 0.16 tons per hour for process weight rates in excess of 450 tons per hour.  
 $P$  = process weight rate in tons per hour.
- E. No later than 30 days after the end of a calendar quarter, starting with the calendar quarter containing the certification of the CPMMS, Chemetco shall submit to U.S. EPA a report for the calendar quarter of all one hour periods of particulate emissions rates (pounds per hour) for each Process Emission Unit that were in excess of the limits established in Illinois Administrative Code Title 35, §212.321 or §212.322. The report shall include: date, time, magnitude of

particulate emission rate, the corresponding allowable emission rate, statements on the probable cause of the excess emissions, statements on any corrective action taken, claims for exemptions, and information on any periods of non-operation or malfunction of the CPMMS. The report should contain a signed statement certifying that "the information contained in the report is true, accurate, and complete." If there were no emission rates in excess of the allowable emission limits for the whole calendar quarter, Chemetco should report that fact.

#### VIII. Facility Changes

If during the duration of the Consent Decree, Chemetco materially changes the pollution control devices at its facility, Chemetco shall adjust, recalibrate, or recertify its CPMMS or install additional monitoring equipment if necessary, to accomplish the continuous mass monitoring requirements of this Decree.

## APPENDIX B

### STACK TEST PROTOCOLS

#### I. PURPOSE

U.S. EPA and Chemetco agree that Chemetco shall provide an agreed upon source of credible evidence for demonstrating "continuous compliance" with particulate emission limits for Illinois Administrative Code Title 35, § 212.321 and § 212.322.

In accordance with this Consent Decree, Chemetco shall install and operate a continuous particulate mass monitoring system ("CPMMS"). The CPMMS certification requirements as outlined under Appendix D - IV require that stack testing be performed to establish a calibration curve for each Mass Monitor.

The three emissions testing activities outlined in the consent decree are the following:

1. CPMMS Calibration Testing Activity

Chemetco will establish the CPMMS calibration curves through regression analysis of stack test data and Mass Monitor data for each of the four Mass Monitors.

2. Baseline Stack Testing Activity

Baseline stack emissions testing will be conducted to demonstrate that each combination of Chemetco's secondary copper smelting furnaces, as a Process Emission Unit, is in compliance with the particulate emission limit in pounds per hour when it is operated in the mode scenario associated with maximum emissions.

3. Optional Stack Testing Activity

The Consent Decree, under paragraph 19, provisions Chemetco to conduct "optional stack testing activity" under the provision of unreliable CPMMS data. Chemetco may attempt to demonstrate through stack testing that fewer than all of the elements of the facility's pollution control system are sufficient to meet the applicable standards for one or more furnace modes.

Appendix B provides stack test protocols for the last two of the three above mentioned activities which are to be certified by a third party stack testing firm. The first protocol is the "Baseline Stack Testing Protocol" and the second protocol is the "Optional Stack Testing" protocol.

## **II. BASELINE STACK TESTING PROTOCOL**

Baseline emissions testing shall be performed in accordance with Section IV. (Methods and Sampling Procedures). The baseline stack testing shall be performed for the maximum mode scenario which is presented in Appendix A. The testing shall be conducted to determine the actual controlled emissions rate of the particulate matter in pounds per hour for each of the two process emission units. The first foundry process emission unit is the combination of Furnace No. 2 & 4. The second process emission unit is the combination of Furnace No. 1 & 3. The stack testing locations shall be in the furnace stacks which are identified by their furnace number. Section IV. C. describes the simultaneous sampling of the two stacks of each process unit and the sampling locations. The minimum testing is presented in Table 1. The allowable particulate matter emission rate in pounds per hour shall be calculated by actual process weight rate of the batch tested.

Chemetco shall be responsible for the monitoring and recording process operating parameters during the emissions testing as described in Section IV. D. Chemetco shall establish baseline operating ranges of pressure drop for the control device systems of each furnace or process unit and of scrubant nozzle pressure for all new active air pollution control equipment. The baseline operating ranges for the control devices shall be recorded and established.

The CPMMS for each stack consists of a Mass Monitor which measures particulate matter concentration and a Flow Monitor which measures the volumetric air flow in the stack. The testing will establish the acceptable range for the CPMMS. The Reference Method ("RM") testing shall be conducted in such a way, that the results are representative of the source emissions and can be correlated to the CPMMS data in pounds per hour.

In summary, a minimum of twelve (12) one-hour runs of Method 5 particulate matter sampling shall be conducted over three (3) batch cycles on the four (4) furnace stacks to determine the compliance with allowable emissions limits; associated operating baseline parameters; and the acceptable range of each CPMMS system. The Method 1, 3, 4, and 5 sampling procedures and equipment are presented later in detail in Section IV.

## **III. OPTIONAL STACK TESTING PROTOCOL**

Paragraph 19 of this Consent Decree, contains a provision for the use of emission limits achieved during optional stack testing instead of CPMMS data. The provision shall apply to the performance

of stack tests if either party concludes that the CPMMS or the data derived there from is unreliable, pursuant to the terms of the Consent Decree. The testing shall be performed in accordance with Section IV. and establish the particulate matter emission rates in pounds per hour to compare with actual batch process weight rates for each process unit. The same parameters shall be tested and recorded as presented in Section II. and IV.

#### **IV. METHODS AND SAMPLING PROCEDURES**

##### **A. EMISSIONS TEST METHODS**

The third party testing firm shall conduct particulate matter (PM) emissions testing at the four furnace stack locations. Table 1 presents a sampling and analytical matrix for this test program.

The testing firm shall conduct the testing program in accordance with the recent EPA reference test methodology as outlined in Title 40, Part 60, Appendix A of The Code of Federal Regulations (40 CFR 60). Specifically:

- i) EPA Method 1 Determination of traverse points for velocity and PM sampling.
- ii) EPA Method 2 Stack gas velocity determination with calibrated Type "S" pitot tubes and calibrated Type "K" thermocouples.
- iii) EPA Method 3 Dry gas molecular weight determination through analysis of CO, O<sub>2</sub>, and CO<sub>2</sub>.
- iv) EPA Method 4 Volumetric flow rate and moisture content determination with calibrated dry gas meters and calibrated Type "K" thermocouples.
- v) EPA Method 5 Isokinetic determination of particulate matter (PM) with a complete borosilicate glass (and/or quartz) sample train.

##### **B. PARTICULATE MATTER SAMPLING EQUIPMENT AND PROCEDURES**

The sampling equipment will consist of the following:

- 1. Pitot Assembly
  - a. Glass with a sharp, tapered leading edge.
  - b. Probe — Stainless steel sheath with a 5/8" OD glass liner wrapped with nichrome wire rheostat controlled and capable of maintaining a temperature of 248°F ±25°F.

<b>Table 1</b> <b>Sampling and Analytical Matrix</b> <b>Typical for Four Furnaces</b> <b>Chemetco, Inc.</b>					
<b>Sampling Location</b>	<b>Parameter</b>	<b>Sampling Method</b>	<b>Analytical Method</b>	<b>Duration of Test Runs</b>	<b>Total Number of Test Runs</b>
Location (Exhaust stack)	Sampling Point Determination	Method 1	Calculated	---	
	Velocity & Volumetric Flow Rate	Method 2	Type S - Pitot Tube	1 Hr.	3
	Molecular Weight	Method 3	Orsat	1 Hr.	3
	Moisture	Method 4	Volumetrically	1 Hr.	3
	Particulate Matter	Method 5	Particulate-Gravimetrically	1 Hr.	3

Simultaneously sampling for each process emission unit: Furnace No. 2 & 4; Furnace No. 1 & 3

- c. Pitot — Type “S” constructed and attached to probe according to specifications outlined in the “Code of Federal Regulations, Chapter I, Title 40, Part 60, Appendix A, Method 2.”
  - d. Orsat probe — Stainless steel ¼” tubing attached to pitot tube in an interference-free arrangement.
  - e. Thermocouple — Type “K” attached to the pitot tube such that the tip has no contact with the metal and does not interfere with the pitot tube face openings.
- 2. Filter Holder — Borosilicate glass with a glass fritted filter support and a silicone rubber sealing gasket.
  - 3. Filter Heating Assembly — Controlled heating element in aluminum module attached to end of probe; capable of maintaining 248°F ±25°F.
  - 4. Impingers — Four glass impingers connected in series with glass fittings and placed in an ice bath. The first, third, and fourth impingers will be of the modified Greenburg-Smith design. The second impinger will be of the Greenburg-Smith design with a standard tip. Final gas exit temperature will be measured to within ±5°F with a thermometer immersed in the gas stream.
  - 5. Control Box — Module containing the vacuum gauge, leak-free pump, thermometer capable of measuring temperature to within ±5°F, dry gas meter with a minimum of 2% accuracy, valves and related equipment as required to maintain an isokinetic sampling rate and to determine sample volume.
  - 6. Nomograph — To determine isokinetic sampling rate.

A schematic of the sampling train is shown in Figure 2.

Prior to leaving the laboratory, glass fiber filters are numbered for identification purposes, heated for 2 hours at 220°F, desiccated for 2 hours, and preweighed to the nearest 0.1 mg.

Upon arrival at the sampling site, the control box will be leak-checked from the pump to the orifice at 5" to 7" of water.

FIGURE 2  
Particulate and Lead Sampling Train  
EPA Method 12

FIGURE 2  
Particulate and Lead Sampling Train  
EPA Method 12



The sampling train will be prepared in the following manner: 100 ml of distilled water added to each of the first two impingers. The third impinger will be left empty and the fourth impinger will contain approximately 250 grams of silica gel.

After assembling the train with the pitot tube, as shown on the schematic, the system will be leak-checked by plugging the inlet to the probe nozzle and pulling a 15" mercury vacuum. A leakage rate not to exceed 0.02 cfm is considered acceptable. The pitot tube system will also be leak-checked at 2" to 3" of water, and any leaks found will be corrected.

The probe nozzle size and moisture content will be derived from a preliminary velocity and temperature traverse measurement. Sampling points within the stack will be selected in accordance with EPA Method 1 (40 CFR 60, Appendix A). The sampling probe will be attached and the heater adjusted to provide a gas temperature of approximately  $248^{\circ}\text{F} \pm 25^{\circ}\text{F}$ .

The filter heating system will be turned on, and ice placed around the impingers. After a suitable warmup period, the nozzle will be placed at the first traverse point with the flow adjusted to isokinetic conditions. Using calculated sampling points and sampling times, the probe is repositioned to the next traverse point, and isokinetic sampling is reestablished. This will be accomplished for each point along the traverse until the run is completed. Readings are taken at each traverse point and at the calculated time interval. At the conclusion of each run, the pump will be turned off and the final readings recorded. A final leak check of the sampling system will be performed, as previously described at the highest vacuum encountered during the test run. A leak check of the pitot system will also be repeated.

### C. SAMPLING LOCATIONS

The emission samples for particulate matter (PM) shall be collected simultaneously from two different locations. The two locations shall be the exhaust stacks from each process emission unit. The emission samples at this stack location shall be collected from the existing 4 foot 10 inch circular duct equipped with two, 4 inch I.D. sampling ports. The upstream and downstream diameters are configured such that the maximum number of sample points shall be required. Exact measurements shall be conducted in the field the day of the testing, but the testing firm expects to use twelve sampling points on each traverse, for a total of at least 24 sampling points. See Figures 1-A and 1-B for the process layout.

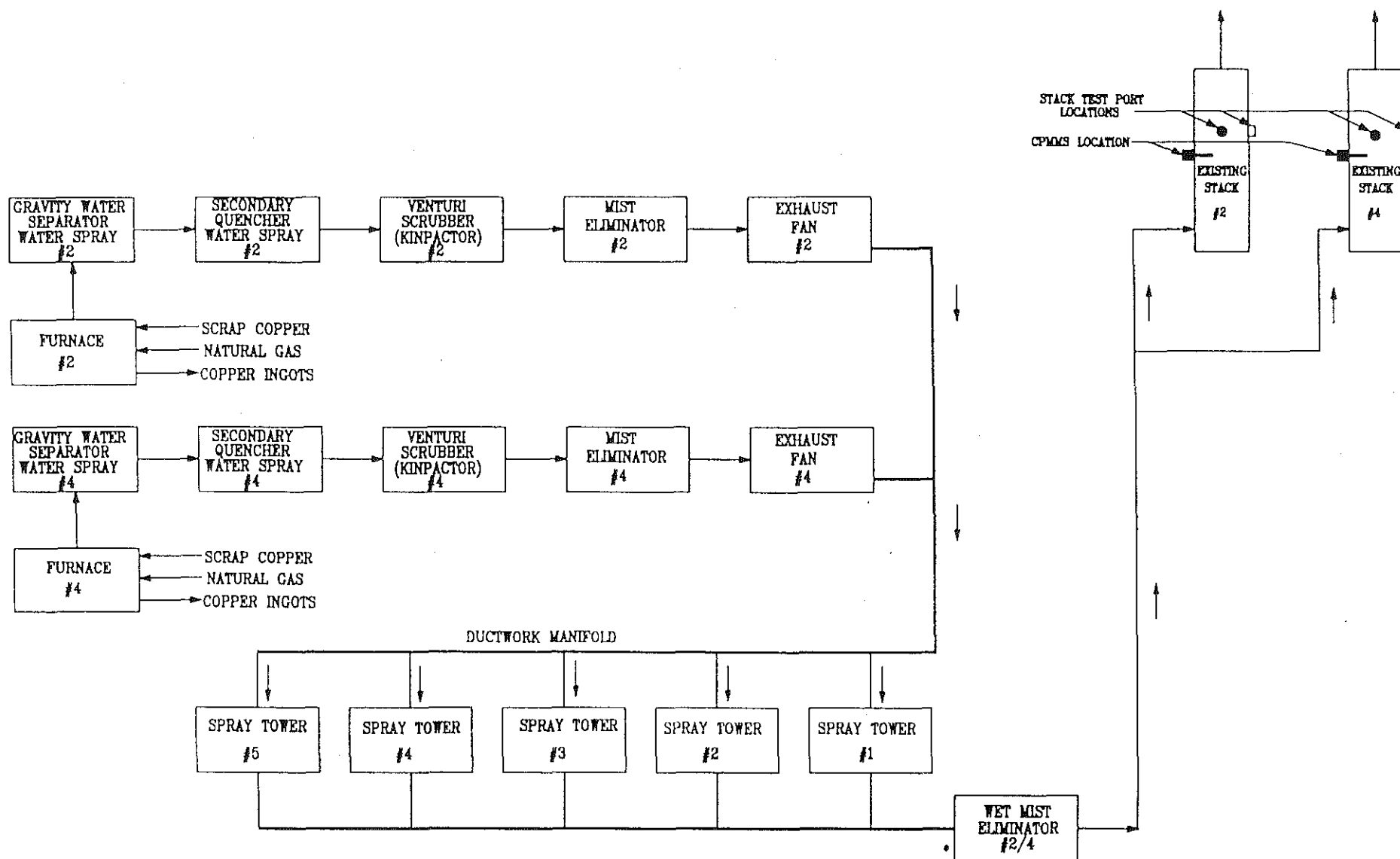


FIGURE 1-A

\* INCLUDES SPRAY VANE SECTION, MIST ELIMINATOR SECTION,  
AND DRY FILTER SECTION

CHEMETCO
CPMMS CERTIFICATION
PROCESS EMISSION UNIT 2/4
DATE: 10-15-99

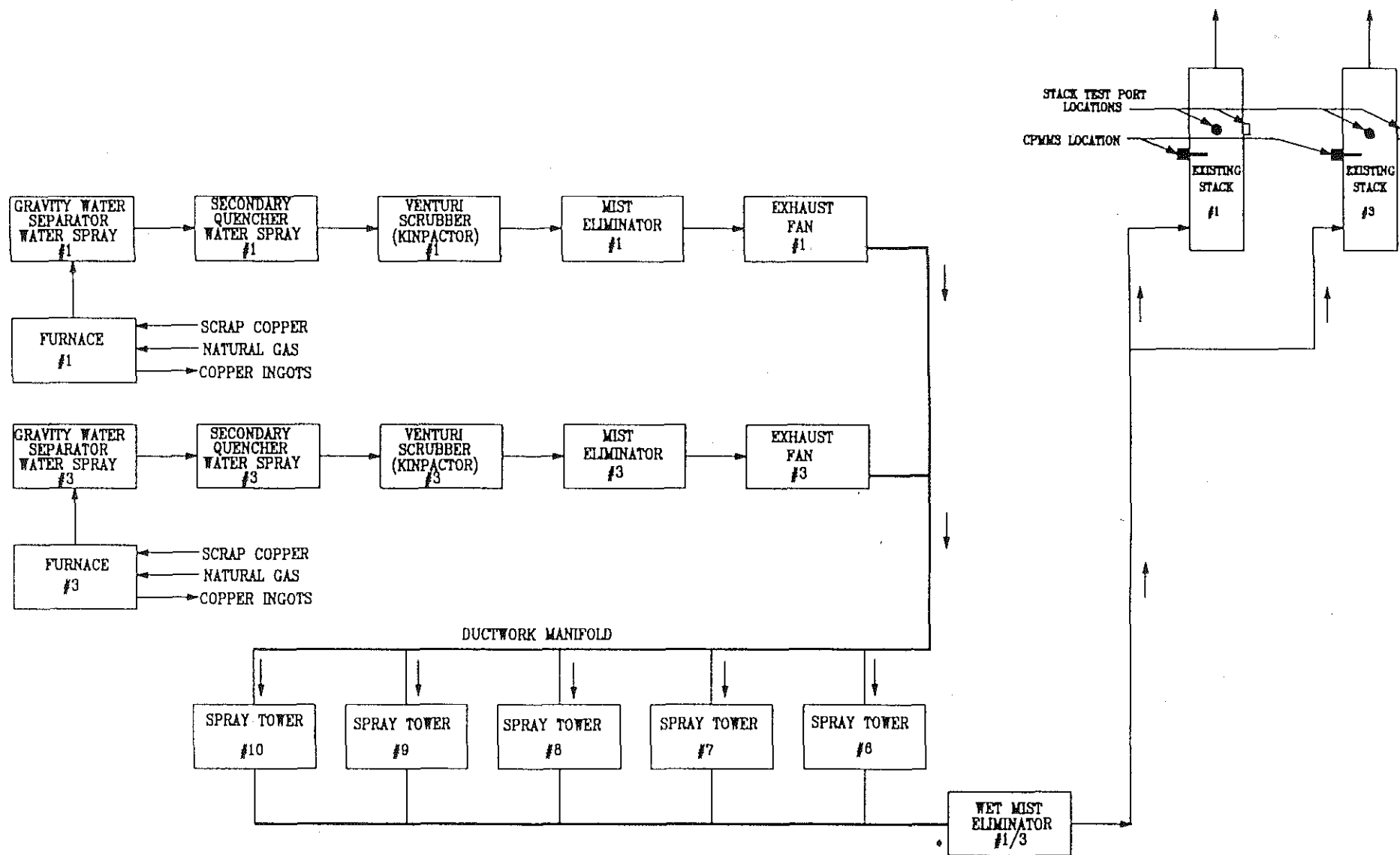


FIGURE 1-B

\* INCLUDES SPRAY VANE SECTION, MIST ELIMINATOR SECTION,  
AND DRY FILTER SECTION

CHEMETCO
CPMMS CERTIFICATION
PROCESS EMISSION UNIT 1/3
DATE: 10-15-99

#### **D. OPERATION PARAMETERS TO BE MONITORED**

Chemetco personnel shall be responsible for monitoring and recording process operating parameters during the emissions testing program. These shall include at a minimum the following:

- heat logs for the furnaces being rested,
- pressure drop across the Venturi scrubbers, and
- water flow rate to each water spray tower.

Chemetco personnel shall observe readings from the appropriate instrumentation and document the readings at a minimum of every 15 minutes during the test runs. The process operations data shall be compiled and averaged for each of the 1-hour test runs.

Chemetco shall develop recipes for furnace changes that are representative of worst case normal operations for generation of process particulate emissions. Each type of material in each charge shall be sampled for analysis or graded to determine lead and zinc percentages by weight. Sampling and analysis of the charge materials shall be conducted in accordance with Chemetco's Standard Operating Procedures (SOP) Number 1 or 2.

Chemetco shall provide written notice to IEPA upon its decision on the charge recipes. The recipes shall be kept in the Maintenance Engineering Department under the supervision of Mr. Kim Fock.

#### **E. SAMPLE RECOVERY**

The tester will rotate and agitate each impinger, so that the impinger contents serve as a rinse solution, and transfer the contents to a graduated cylinder to measure the volume. After the determination of the volume, the solution will be transferred to the "postfilter" container.

The probe nozzle, and all sample-exposed surfaces are washed with reagent-grade acetone and put into a clean sample bottle marked "prefilter." A brush will be used to loosen any adhering particulate matter, and subsequent washings will be put into the "prefilter" container. Any filter material that adhered to the filter support surfaces will be carefully removed and added to the filter container. The silica gel will be removed from the fourth impinger and transferred to its original container.

## F. ANALYTICAL PROCEDURES

PM will be determined by the gravimetric analysis of the probe/front half wash (acetone solution) and glass fiber filters in accordance Method 5. The filter and any loose particulate matter will be transferred from the filter container to a clean, tared glass weighing dish. The filter will be placed in a desiccator for 24 hours and weighed to a constant weight. The original weight of the filter will be deducted, and the weight gain recorded to the nearest 0.1 mg.

The "prefilter" wash and blank acetone solutions will be transferred to individual clean, tared beakers, then evaporated to dryness and desiccated to a constant weight. The weight gain of the "prefilter" is adjusted for the blank and recorded to the nearest 0.1 mg. The silica gel is weighed, and the weight gain is recorded to the nearest 0.1 gram.

All samples and blanks will be analyzed by the recommended procedures stipulated for each EPA Reference Method. Field blanks and QA/QC practices will be strictly followed as outlined in the EPA analytical procedures. Chain of Custody worksheets will accompany all samples from collection at the facility, throughout transportation, and during the analysis period. The testing firm has requested 7 day turnaround of laboratory sample analysis.

## G. OXYGEN (O<sub>2</sub>) AND CARBON DIOXIDE (CO<sub>2</sub>) SAMPLING

As required by EPA Method 3 (40 CFR 60, Appendix A), oxygen and carbon dioxide samples will be collected by an integrated bag system. The collected sample is then analyzed using a Fyrite gas analyzer. Oxygen and carbon dioxide concentrations will be determined in percent of stack gas and stack gas molecular weight is then calculated.

A schematic of the integrated bag sampling train is presented in Figure 3.

## H. SAMPLING PROCEDURES

The sampling procedure consists of the following leak check and sampling techniques. Prior to sampling, the bag is leak-checked to 2 to 4 in. of water. The inlet to the condenser is plugged, and a vacuum of 10 in. of Hg is created. The outlet of the pump is then plugged and the pump turned off. The vacuum is observed for 30 seconds to determine any leakage. The vacuum must hold steady for at least 30 seconds for the leak test to be acceptable. The sample line is then purged with stack gas and the bag is connected. Sampling is conducted at an appropriate constant rate at the same traverse points and for the same length of time as the other testing parameters. At the conclusion of the run, the pump is turned off and the bag sealed.

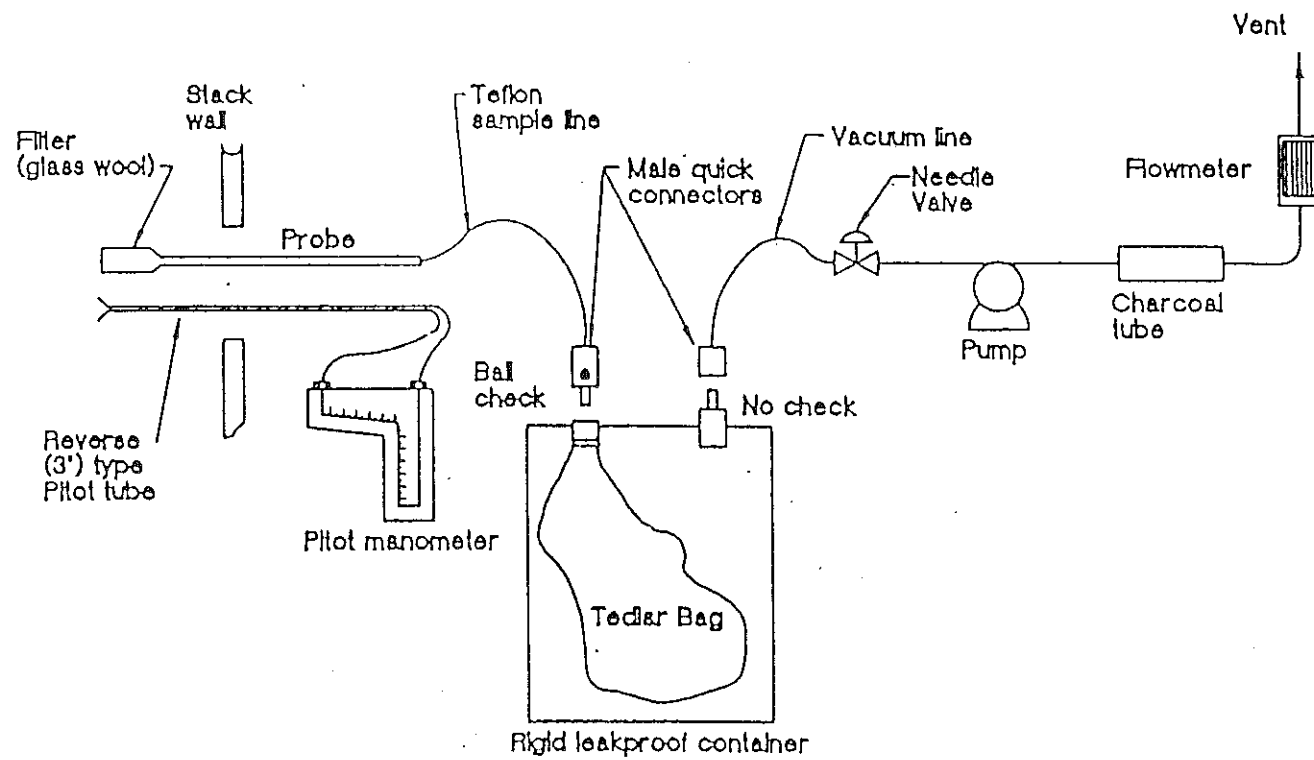


Figure 3

SOURCE: ENVIRONMENT REPORTER

FIGURE 3  
Integrated Bag Sampling Train

## I. ANALYTICAL PROCEDURES

The percentage of effluent gas which was O<sub>2</sub> and CO<sub>2</sub> are measured directly. Nitrogen and CO content are determined by subtracting the sum of CO<sub>2</sub> and O<sub>2</sub> percent from 100 percent.

The dry molecular weight is calculated using the following equation:

$$M_d = 0.440 \times \% \text{ CO}_2 + 0.320 \times \% \text{ O}_2 + 0.280 \times (\% \text{ N}_2 + \% \text{ CO})$$

## J. QUALITY ASSURANCE/QUALITY CONTROL

Strict Quality Assurance/Quality Control (QA/QC) measures will be observed for all sampling and analysis performed for the Chemetco test program. The QA/QC program is designed to provide the highest quality data in terms of the accuracy and precision of the measurements as well as the representativeness and comparability of the results. All procedures and quality control guidelines specified in the appropriate methods and in the EPA Quality Assurance Handbook for Air Pollution Measurement Systems - Volume II will be strictly followed during the test program, in addition to the testing firm's more stringent internal quality control standards. All sampling will be conducted in a manner so that each test run of each method is conducted as simultaneously as possible with other methods.

### 1. Manual Methods QA/QC

The QA/QC program for this test series includes all of the QA/QC guidelines given by EPA in the attached test methods and procedures in the testing firm's more stringent internal QA/QC standards. Primary components of the QA/QC program are listed below:

- Equipment Calibrations - including meter boxes, thermocouples, pitot tubes and analytical balance.
- Equipment Leak Checks - including pre- and post-test sample train leak checks, meter and pump leak checks, pitot leak checks and ORSAT system leak checks.
- Careful monitoring and documentation of sample train critical parameters including temperatures and meter pressure.
- Preliminary measurements to aid in calculating the sampling K-factor used to determine isokinetic sampling rate.

- Maintaining an isokinetic sampling rate so that the velocity through the sampling nozzle matches the surrounding flue gas stream velocity to within +/- 10%.
- Field and Laboratory Blanks will be conducted for each set of samples.
- Careful chain of Custody procedures will be observed for all samples and all samples will be refrigerated after collection and recovery and during shipping and storage in the laboratory prior to analysis.
- All samples will be analyzed within the required hold times of each individual method.

All sampling trains will be leak checked prior to and after each sampling run. If the leak rates exceed the maximum acceptable leak rate of 0.02 cubic feet per minute, corrective action will be taken. Sample train leak checks will be performed at a vacuum of at least 5" Hg greater than the highest observed vacuum observed during sampling. All sample trains will meet the +/- 10% criterion for isokinetic sampling or corrective action will be taken. All particulate matter samples will be desiccated and replicate analyses will be performed until agreement of 0.5 mg between weighing's which will be six hours apart. Blanks and other quality control indicators as specified for each technique will be collected and analyzed as appropriate.

## 2. Chain of Custody

Chain of Custody worksheets are prepared daily at the test location detailing the person(s) immediately responsible for the recovery of every sample. The Chain-of-Custody forms are prepared with detailed identifications of each sample, the analysis requirements, and the persons immediately responsible for the recovery. Signatures of every person in contact with the samples from the test location to the laboratory are recorded. Test date, sample identification, and the laboratory performing the analyses are identified on the Chain of Custody worksheet.



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